SMARTUP SEAT RESERVATION DISPLAY

SMARTUP SOLUTIONS

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SmartUp Seat Reservation system with its attractive display and modern electronic background offers a state-of-the-art solution to inform passengers about seat reservation on board of vehicles.

Its core concept is flexibility, and scalability to suit the individual needs both of the system architecture and in visual appearance.

System architecture

The complete system consists of two basic units:

1. Central Unit
2. Display Modules for 1, 2 ,3, 6 or 8 seats

Function of the Central Unit:

The Central Unit communicates on a serial line (RS 485, RS 232 or CAN) with the central passenger information system of the carriage in order to receive reservation data from the seat reservation system. The communication protocol can be easily changed in order to comply with various transport operators' requirements.

Collects the information of the transport companies' ticket database (via LAN interface) and sends them to the displays.

Central unit has two CAN communication lines and the display modules are connected to one of the CAN channels. The system is modular, scalable. A single CAN bus (industrial standard for reliable communication) supports up to 32-64 display modules.

The display module supports a bright, high contrast, monochrome graphic OLED screen with 3.12" diagonal size, and 256x64 pixel resolution.

The small dot size allows highly detailed symbols and very smooth horizontal scrolling. A single module can host 1, 2, 6 or 8 individual OLED displays. Communication with the Central Unit is effected via CAN 2.0B with and AQUIS developed protocol or a user defined one. Both the firmware of the controller and the character set of the application are updatable through proprietary CAN bootloader.

Through Unicode encoding support the multilingual text is easy to handle. Furthermore the character set is replaceable from any FreeType font sets used by personal computers. This makes the end user stylistic customization available with editable custom symbols. The number of available symbols in a character set is only limited by the memory. Using compression its footprint can be reduced providing space for at least 1500+ unique glyphs up to several thousands depending on the properties of the fonts.

Display module can be programmed to use the whole height of the module to display one character (this option provides 20 mm high characters) or it can be split up into two parts, resulting 10 mm characters. In this case 15-16 characters can be displayed by lines simultaneously. If displayed text is longer the string is scrolled.

Considering character sets:

- Unicode encoding supported – plane 0/ a.k.a. Basic Multilingual Plane
- Character maps can be generated from any FreeType font sets.
- User editable glyphs/symbols can be installed
- Character set and/or user program can be updated via CAN

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Specification:

	Central unit	1 or 2seats module	3 seats module	6 seats module	8 seats module
Operating temperature	-40°C +50 °C				
Storage temperature:	-40 °C +70 °C				
Mechanical dimensions:	-	142 x 80mm	142 x 115 mm	230 x 115mm	230 x 155mm
Power consumption:	2 W	1,2W / 2W	2,8W	5W	6W
Standards:	EN 50 155, IEC 61 373, EN 455 45				
Power supply (all units)	24 V DC				